

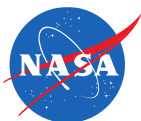


# Emergent Library Roles in Improving Internal Search

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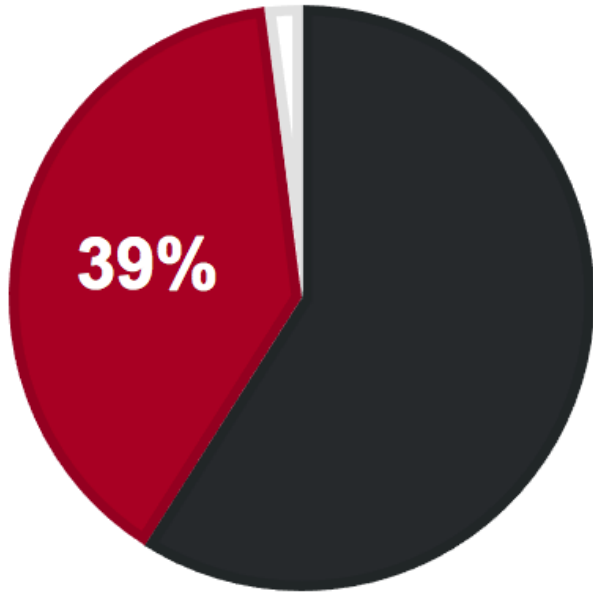
**Jet Propulsion Laboratory**  
California Institute of Technology

# What is Internal Search?

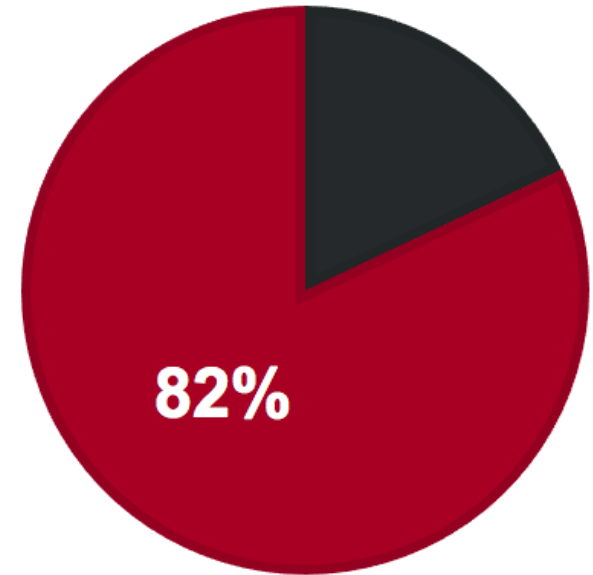
Enterprise (internal, intranet) search "enables employees to find all the information that the company possesses **without the need to know where the information is stored.**" <sup>[1]</sup>

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# The “Curse” of Internal Search <sup>[2]</sup>



Findwise, 2015 <sup>[3]</sup>  
No cross-repository search



AIIM, 2014 <sup>[4]</sup>  
No unified enterprise search

# Enterprise Search at JPL



- About 5,000 knowledge workers
- Over 150 content repositories
- Elasticsearch engine for **JSearch** <sup>[5]</sup>
  - Open source, scalable, and customizable
  - Full-text indexing
  - Authenticated search
  - Supports faceted browsing
  - Only a fraction of repositories incorporated

# JSearch Sample Page

The screenshot displays the JPL JSearch interface. At the top, a dark red header contains the JPL logo and navigation links for JPL Space, JPL, Caltech, and NASA. Below this, a horizontal menu lists categories: All JPL (highlighted), Web, Documents, Images, Videos, People, and Search. A search bar on the right contains the text 'beacon', with a dropdown menu showing suggestions: 'beacon', 'beacon 3d' (highlighted), 'beacon one', 'beacon', and 'beacon express'. A light blue banner below the menu reads 'Click here to sign in for authenticated search results.' with a close button 'x'.

The main content area shows search results for 'beacon'. It starts with 'About 2,846 results (0.293 seconds)'. The first result is 'BEACON Information Commons::Home' with the URL 'http://beacon.jpl.nasa.gov/'. The description follows: 'BEACON Information Commons::Home Follow this link to skip to the Main Content of this page jpl home earth solar system stars & galaxies science & technology ... HOME Search Books & Journals Journals A-Z E-Books A-Z Articles & Papers Beacon eSpace (TRS) Databases A-Z Standards & Patents Archives Search Mobile Apps'.

The second result is also 'BEACON Information Commons::Home' but with the URL 'https://beacon.jpl.nasa.gov/'. Its description is identical to the first result.

The third result is 'BEACON Information Commons::Mobile' with the URL 'http://beacon.jpl.nasa.gov/m'. Its description is: 'BEACON Information Commons::Mobile Loading... BEACON Catalog + i Search Query: Journal Title Search + Title begins with Title equals Title contains all ... Marlon Hernandez in the Library with any feedback. You are on BEACON mobile | Full BEACON website'.

On the right side of the page, there are three sections: 'Beacon' with a link to 'BEACON - Library, Archives and Records BEACON OneSearch'; 'YELLOW & RED PAGES' with a link to 'BEACON Information Commons' showing '273' results; and 'ACRONYMS' with a link to 'BEACON' and the text 'Bibliographic and Electronic Access CONn'.

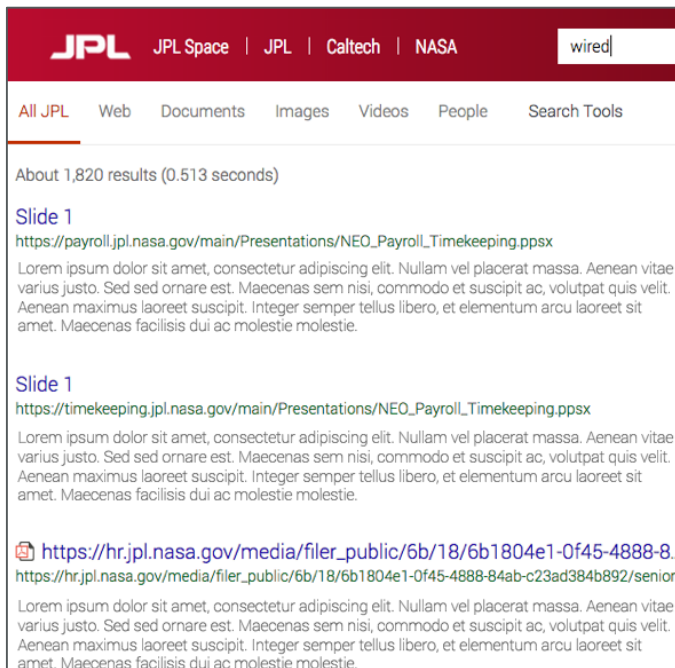
# Problems with JSearch

- Initially, relevance ranking of search results was poor.
- Users reported low confidence in and infrequent use of search system because of relevancy issues.
- Search results not “readable.”



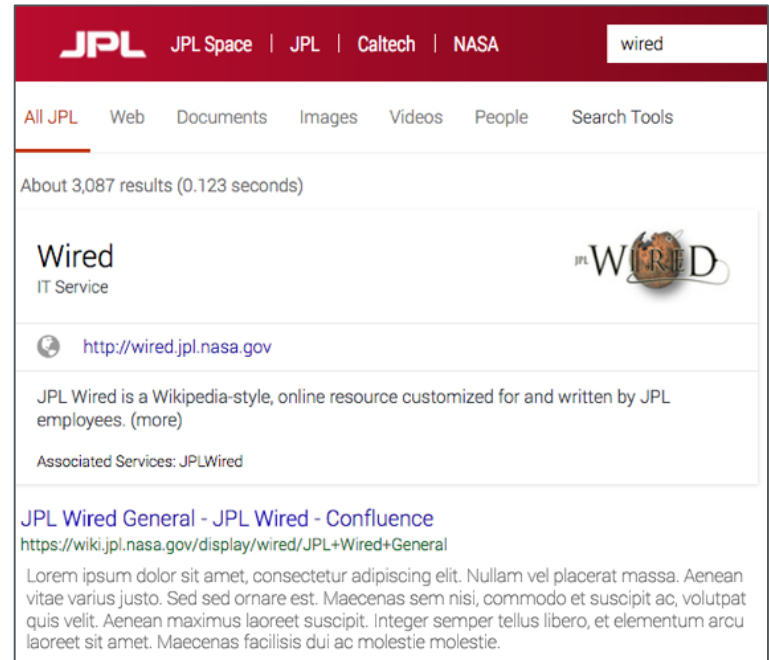
# Relevancy Problem? Curation Solution

Library curators able to **keymatch**, **boost**, and **delete** items directly in the JSearch index, and per user request.



The screenshot shows the JPL search interface with the search term 'wired'. The results are ranked organically, showing three items. The first item is 'Slide 1' with a URL to a payroll presentation. The second item is also 'Slide 1' with a URL to a timekeeping presentation. The third item is a document with a URL to a media file. Each item has a placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam vel placerat massa. Aenean vitae varius justo. Sed sed ornare est. Maecenas sem nisi, commodo et suscipit ac, volutpat quis velit. Aenean maximus laoreet suscipit. Integer semper tellus libero, et elementum arcu laoreet sit amet. Maecenas facilisis dui ac molestie molestie.'

before curation  
(organic relevance ranking)

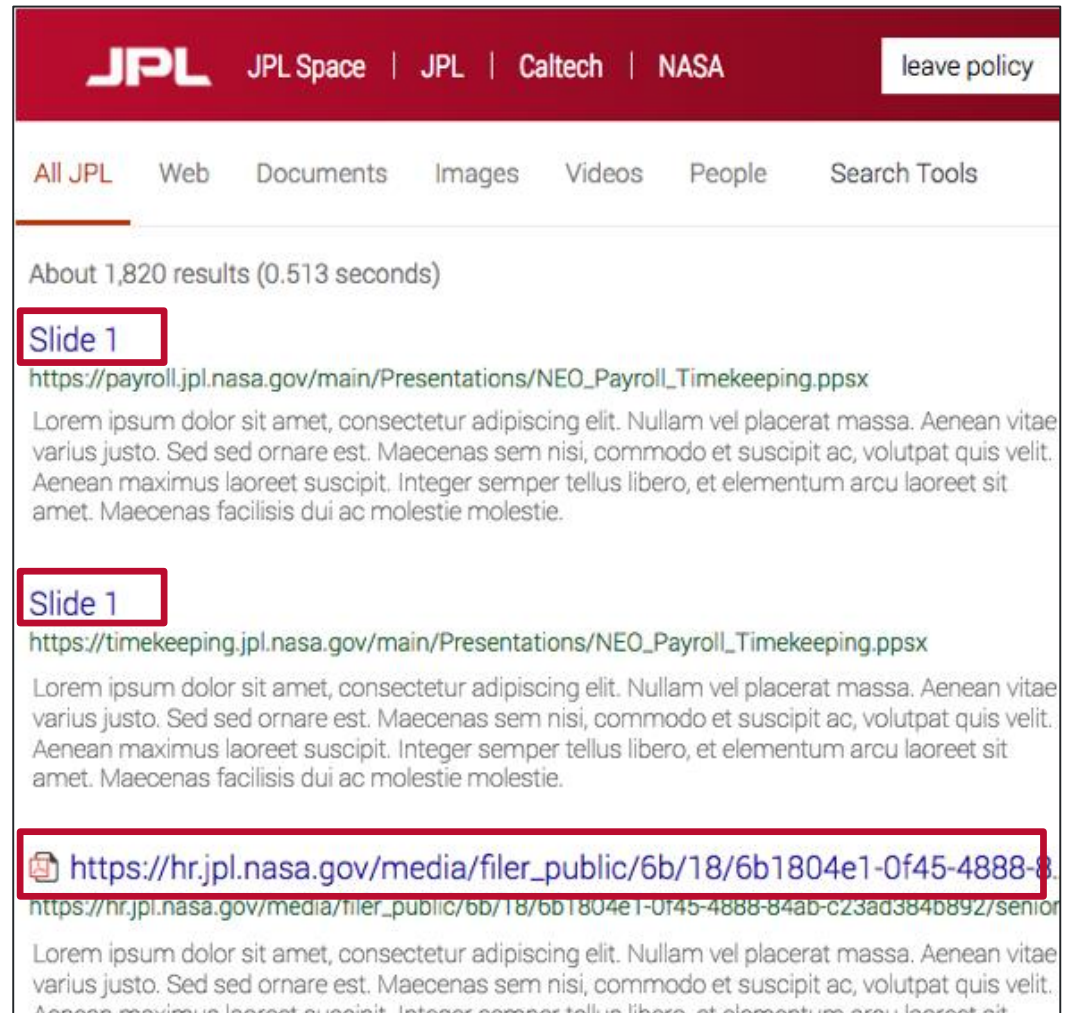


The screenshot shows the JPL search interface with the search term 'wired'. The results are now manually ranked, showing a single, highly relevant result. The first item is 'Wired IT Service' with a URL to 'http://wired.jpl.nasa.gov'. Below this, there is a description: 'JPL Wired is a Wikipedia-style, online resource customized for and written by JPL employees. (more)'. Below that, it says 'Associated Services: JPLWired'. At the bottom, there is a link to 'JPL Wired General - JPL Wired - Confluence' with a URL to 'https://wiki.jpl.nasa.gov/display/wired/JPL+Wired+General'. Each item has a placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam vel placerat massa. Aenean vitae varius justo. Sed sed ornare est. Maecenas sem nisi, commodo et suscipit ac, volutpat quis velit. Aenean maximus laoreet suscipit. Integer semper tellus libero, et elementum arcu laoreet sit amet. Maecenas facilisis dui ac molestie molestie.'

after curation  
(manual relevance ranking)

# Lasting JSearch Problem: Poor Readability

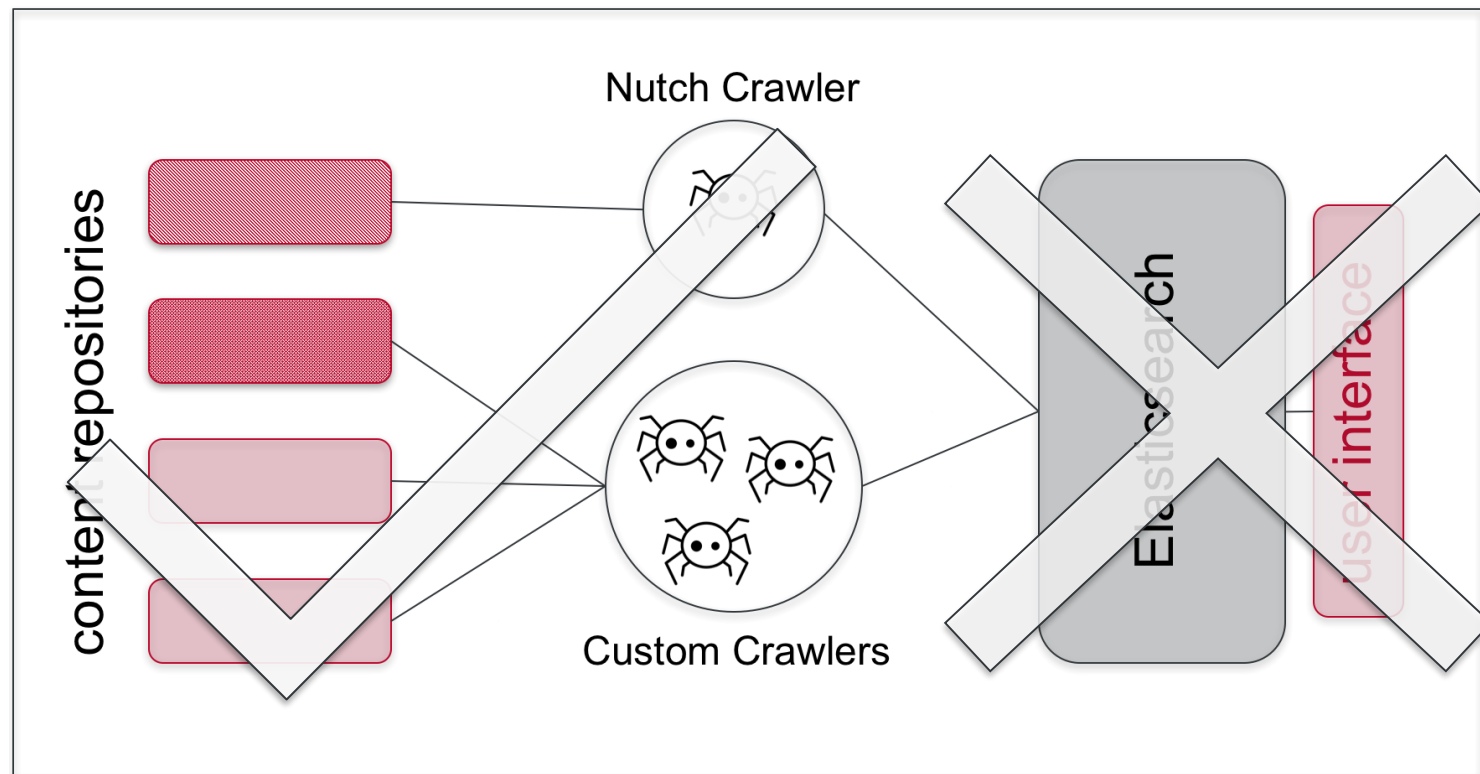
Poor or missing  
content metadata  
makes even  
relevant content  
difficult to identify.





# The Librarian Role

The most effective solutions may lie in **curating intranet content** (in addition to tweaking the search index.)



# Emergency of the Library Role <sup>[6]</sup>



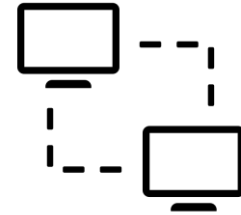
## Data Deluge

Explosion of structured and unstructured data requires mediation and foresight.



## User Expectation

“Why can’t it just work like Google?”



## Good Technology

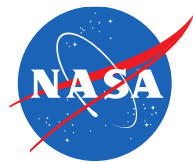
Commercial search solutions work perfectly in theory, less perfectly in reality.

# Final Thoughts

Enterprise search needs YOU! [7]

Curate a better search system by cultivating a **librarian's approach to content management** within the organization.

Use the information management skills at our disposal to describe content consistently, realistically, and proactively.



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# Sources Referenced in Presentation

- [1] White, Martin S. *Enterprise search*, 2<sup>nd</sup> ed., Sebastopol : O'Reilly Media, 2016.
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- [4] Miles, Doug. "Search and Discovery - Exploiting Knowledge, Minimizing Risk," *AIIM Industry Watch*, Silver Spring, MD : AIIM The Global Community of Information Professionals, 2014.
- [5] Elastic. "Elasticsearch – Search and Analyze Data in Real Time," Amsterdam : Elasticsearch BV, 2016, <https://www.elastic.co/products/elasticsearch>.
- [6] Kennedy, Mary L, and Jane Dysart. *Intranets for Info Pros*. Medford, N.J: Information Today, 2007.
- [7] Lustigman, Allie. "Your Intranet Needs YOU: How Information Professionals Can Add Value to Intranets and Portals," *Legal Information Management*, 15(1), 57-60, Cambridge: Cambridge University Press, 2015.

# JSearch Architecture

